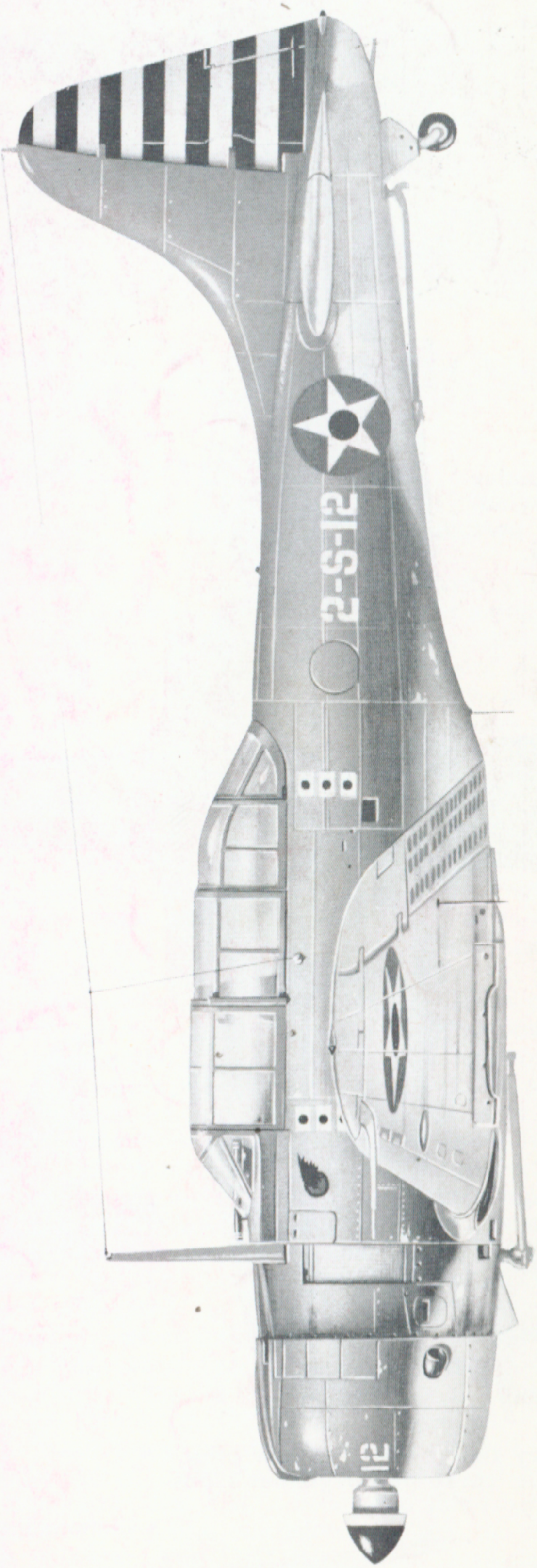
PROFILE
PUBLICATIONS

The Douglas SBD Dauntless

NUMBER 196



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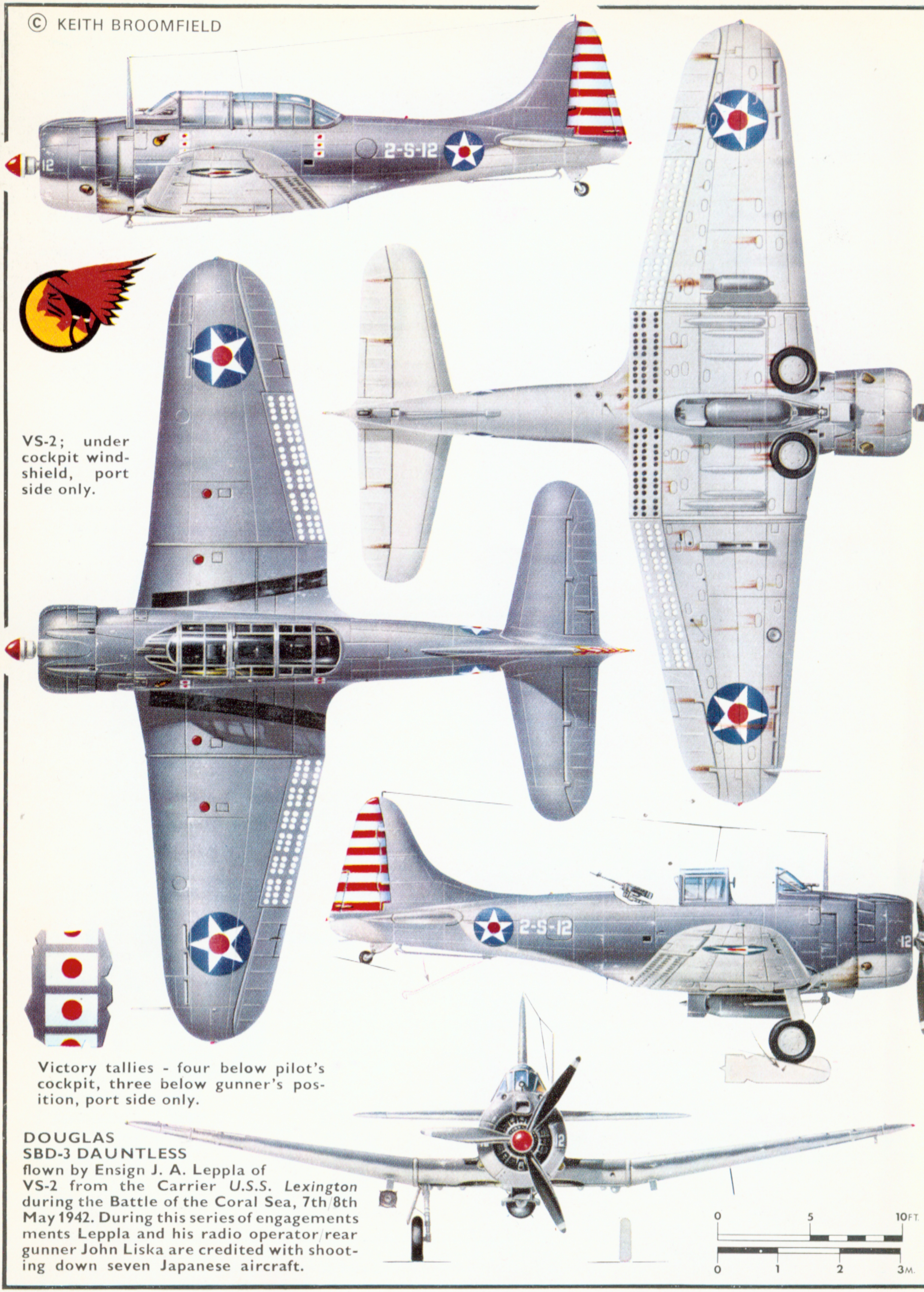
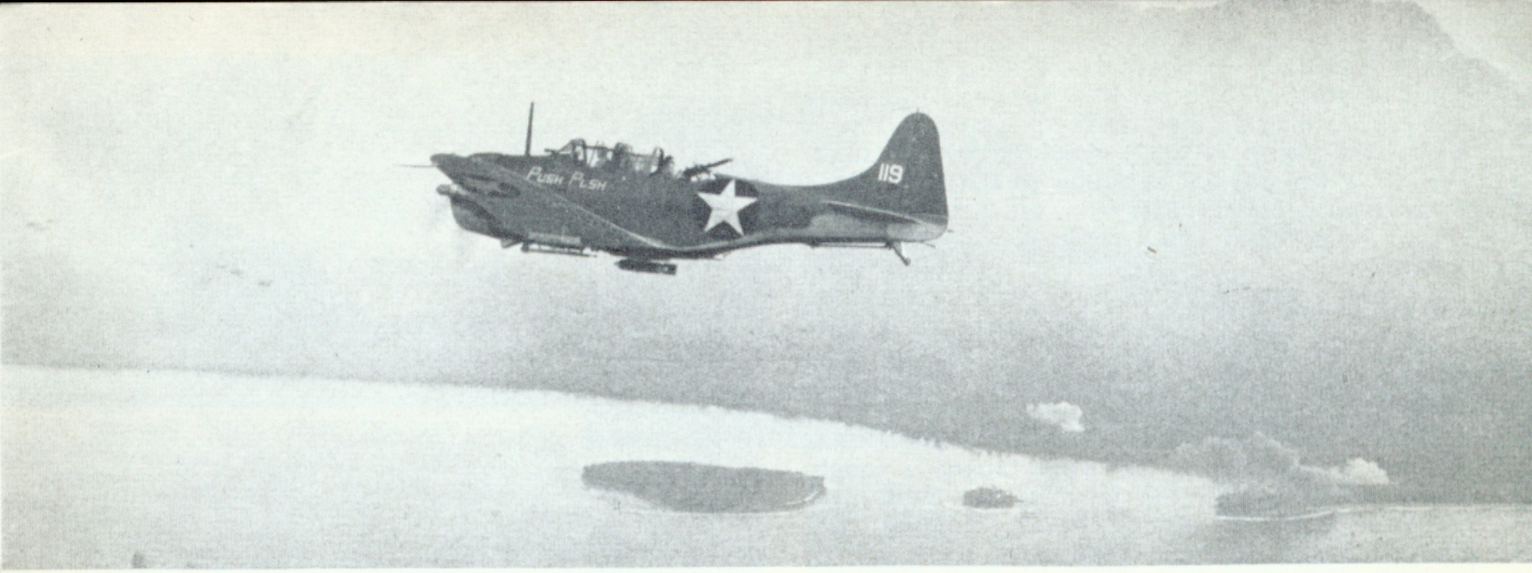


VS-2; under cockpit windshield, port side only.

Victory tallies - four below pilot's cockpit, three below gunner's position, port side only.

DOUGLAS SBD-3 DAUNTLESS

flown by Ensign J. A. Leppla of VS-2 from the Carrier *U.S.S. Lexington* during the Battle of the Coral Sea, 7th/8th May 1942. During this series of engagements ments Leppla and his radio operator/rear gunner John Liska are credited with shooting down seven Japanese aircraft.



An SBD-3 Dauntless of U.S.M.C. squadron VMSB-114, thought to be the aircraft of the squadron commander Maj. Hollar, over the beaches of Bougainville Island. The amphibious landings in Empress Augusta Bay are minutes away; smoke rises (right) *from Japanese emplacements under fire from destroyers hove-to off shore, and the Marine landing barges are starting to pull away from the troop transports* (bottom left). *Seconds after this photograph was taken, "Push-Push" dived to drop smoke marker bombs on the beaches immediately behind the small island of Puruata* (centre). (Photo: Marine Corps Museum via the author)

The Douglas SBD Dauntless

by David Brazelton

"Scratch one flat-top—Dixon to Carrier—Scratch one flat-top".

These words transmitted by Lt. Comdr. Robert Dixon, leader of Bombing Squadron 2, signalled the turning point for U.S. Naval forces in the Pacific. They announced the sinking of the Japanese carrier *Shoho* by the combined efforts of aircraft launched from the carriers *Lexington* and *Yorktown*.

The time was 11-36 a.m. on 7th May, 1942; just five months after the Navy's stunning defeat at Pearl Harbour and the day after General Wainwright was forced to surrender the gallant defenders of Corregidor. For the first time since December, the allies had been able to amass a striking force of sufficient size and determination to stop a victory-flushed invasion force in its tracks, and turn it back. For the first time in history, a decisive sea battle was engaged and decided without the opposing ships either seeing each other or directly exchanging shots.

The battle was to be known as the Battle of the Coral Sea and laid the foundations for the ultimate victory of Allied forces in the Pacific theatre. The war was not won by this battle alone. In fact, the losses suffered by victor and vanquished were nearly equal; the victor's determination to press on careless of losses being stiffened by the consequences of defeat, namely a successful invasion at Port Moresby by the Japanese.

This battle took its place in a hero's rollcall of carrier operations that serve as milestones of the war in the Pacific throughout 1942 and 1943. The Marshall Islands, Tulagi, the Battles of the Coral Sea and Midway, and the campaign in the Solomons are all events well known to students of that great conflict. In the forefront of these operations, the names of pilots such as Dixon and Leppla from the *Lexington* and Armstrong and Burch from the *Yorktown* became linked with an airplane that was proving the foresight of some of United States defence planners. Long before, the plane had been nicknamed the "Dauntless", and it was getting a chance to prove the justice of its christening.

Chroniclers of modern war prefer to write at length of the exploits of fighter pilots and fighter aeroplanes. They usually admit, although grudgingly, that while the fighters were executing page after page of glorious tactics and superior maneouvring, the dive-bombers and torpedo planes sank four enemy carriers and a battleship. Often ignored is the fact that the SBD had a fairly impressive record for shooting down aeroplanes, too.

An example occurred during the Coral Sea engagement. During the first dive-bomb attack on the *Shoho*, the crew of Leppla and Liska pushed over into their dive only to be harassed by two Japanese fighters. The gunner, Liska, downed the first and discouraged the second. Then Ensign Leppla saw a Zero that had jumped another SBD. Leppla pulled his SBD into firing position and quickly disposed of the attacker without leaving his dive. After dropping his bombs Leppla pulled out and found another enemy fighter in his sights. A burst from the nose guns dispatched the Zero in short order. With his bombs gone, Leppla headed for the *Lexington* and arrived with a short detour to destroy a Japanese scouting plane that was unfortunate enough to set a course in his vicinity. On the second day of the battle, the teamwork of Lt. Leppla and his sharpshooting gunner accounted for three more enemy aircraft. However, bomber pilots don't earn the title of "Ace" even when they and their gunners destroy seven enemy planes in two days.

In the action on the second day of the battle, SBD's were launched to protect the carriers from torpedo planes. The *Lexington* was ultimately lost but not before the SBD's accounted for 11 of the intruders. The Coral Sea encounter cost the enemy 91 aeroplanes. The SBD pilots were credited with 40 of these.

The tactical prowess of the Dauntless has become almost legendary. On 4th June, 1942, during the Battle of Midway, a force of 54 SBD's attacked and mortally damaged the Japanese carriers *Akagi*, *Kaga*, and *Soryu*, all in a space of two minutes. The *Hiryu* was put out of action by the *Enterprises'* Dauntlesses later that afternoon, but not before the *Hiryu's* planes had taken futile vengeance on the *Yorktown*.

When the carrier *Wasp* went into combat, the SBD's aboard managed to log seven enemy aeroplanes destroyed before the fighters scored their first victory. For this, the Dauntless was unofficially known as the "SB*F*D" in some wardrooms.

In spite of the lack of that glamour which attracts the war correspondent, the SBD fought a tough, relentless war against the Japanese and performed countless hours of unsung escort, scouting, and courier missions in other theatres of the war. In restrospect, it has become acknowledged as the decisive instrument employed by the U.S. Navy in turning back the Japanese advance during World War II. Today it is difficult to find an SBD on display. The surviving airframes were rapidly disposed of in the post-war flurry of disarmament, and those that remained were used until the end of their useful lives.

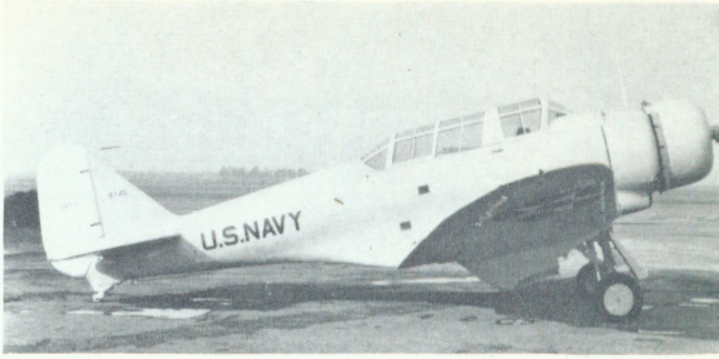
OBSCURE BEGINNINGS

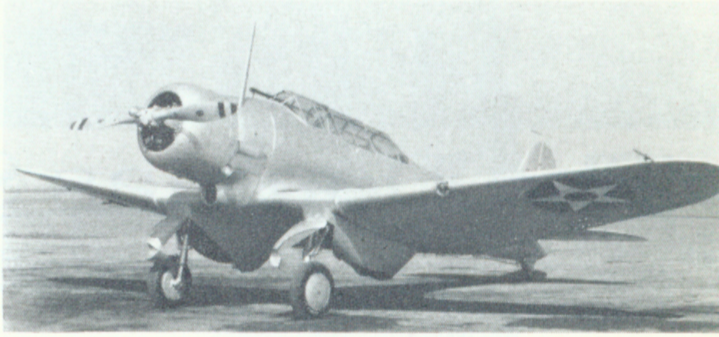
What was this machine? What made it so great? Where did it come from? It is difficult to determine the actual starting point of the Dauntless. It certainly existed before the familiar type designation of SBD was assigned. Most often, the history of the 'plane is traced back as far as the XBT-2 which was without a doubt a turning point in the life of the design. Most likely, though, the development of the Dauntless began in 1934 with the circulation of new specifications for a dive-bomber for the Navy.

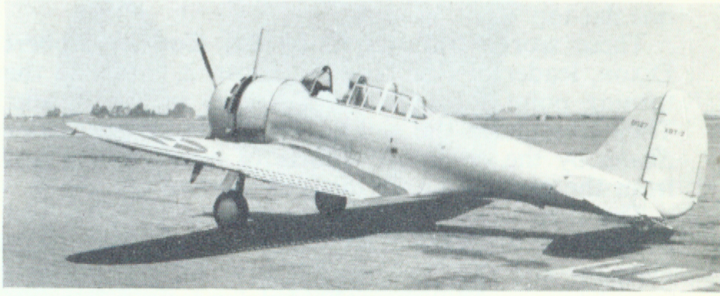
This specification differed from the previous Bureau of Aeronautics design 113 which required a biplane configuration. Now a design of either biplane or low-wing monoplane was desired. The new plane was to be designed for scout and dive-bomb missions only. A bomb displacement gear was required to ensure the bomb cleared the propeller and dive brakes were specified to permit steep angle dives. The design was to be capable of substantial range, speed, strength, and load carrying capability.

In response to this, six companies entered competition. Curtiss and Great Lakes entered biplanes and were quickly eliminated on that basis. Entries were also made by Brewster, Martin, and Vought.

The Northrop Aircraft Company at El Segundo, California (a company formed by John Northrop in 1932) entered a design that was to become known as the XBT-1. Since Douglas had retained a financial and technical interest in Northrop, they are given credit for the design to a greater or lesser extent depending on the era and the sources. To be sure, the affiliation of the two companies served to provide a smooth transition of the design to the Douglas name in 1938 when Northrop left the company.



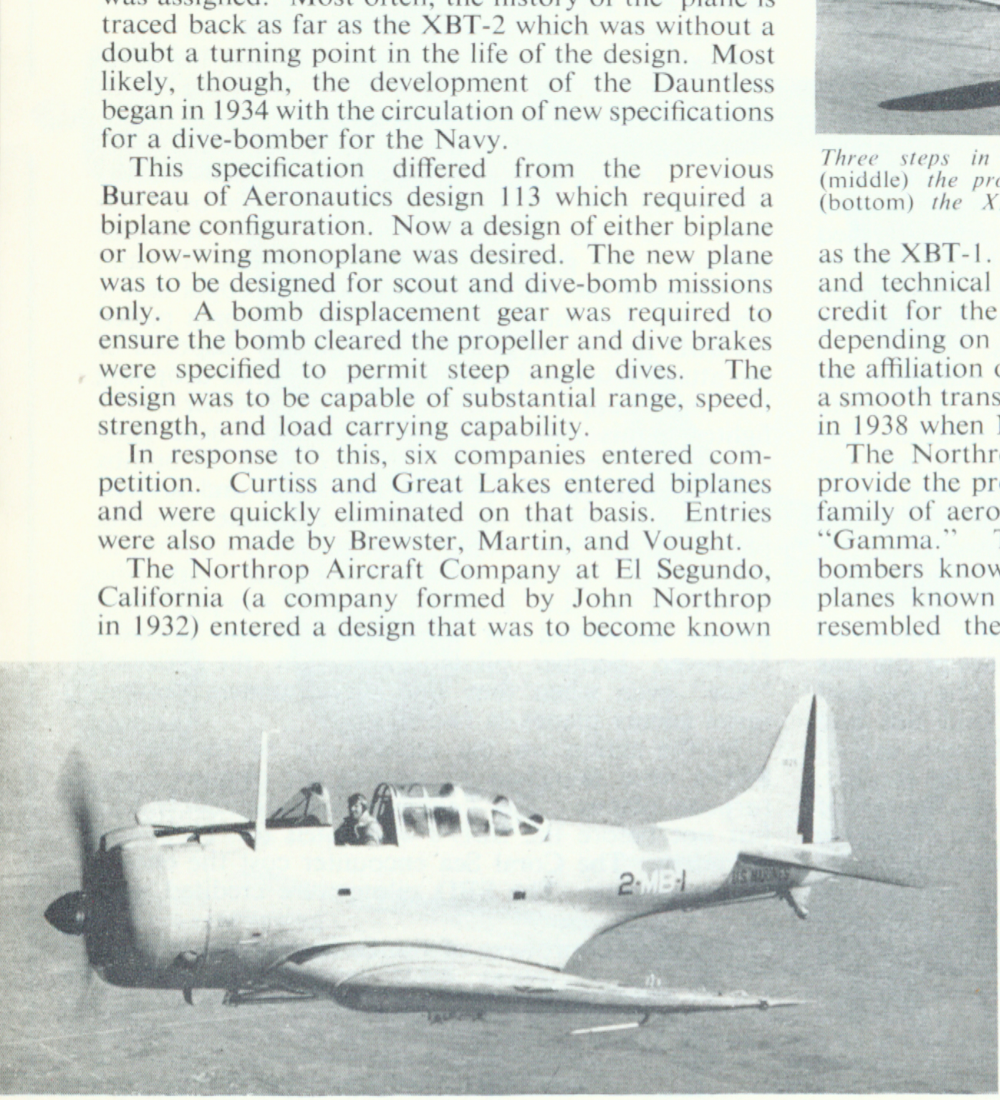




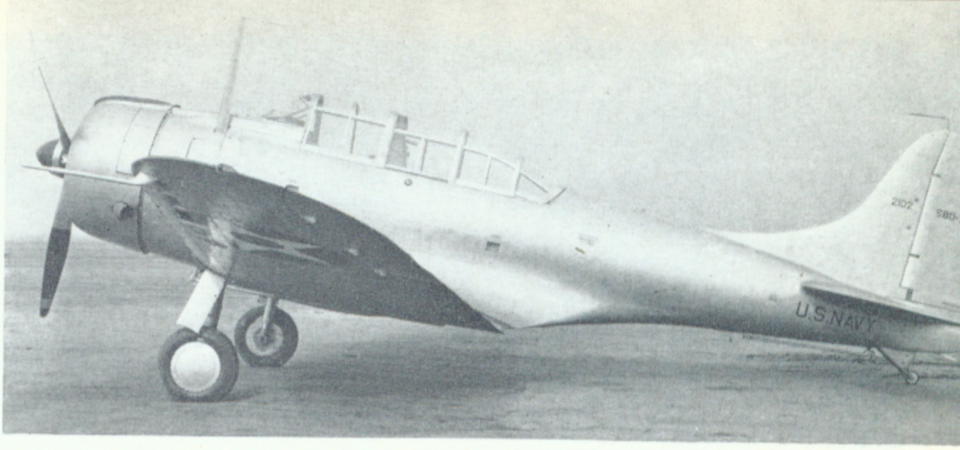
Three steps in the Dauntless pedigree: (top) *the XBT-1;* (middle) *the production BT-1, of which 54 were built; and* (bottom) *the XBT-2.* (Photos: William T. Larkins)

The Northrop engineering was well equipped to provide the product the Navy was seeking. A whole family of aeroplanes was being sired by the famous "Gamma." The Chinese had purchased 46 dive-bombers known as the 2-E. Iraq had accepted 15 planes known as the 8A-4. Both of these 'planes resembled the "Gamma" but the profile of the "Dauntless" was beginning to appear.

Mr. Ed Heinemann headed up the project to design the BT-1 to meet the competition specifications. Dimensionally, it established the scale of the later models. It had a wingspan of 41½ ft. and an overall length of 31½ ft. The 825 h.p. Pratt Whitney R-1435-94 engine gave it a top speed of 184 knots and a service



BuNo 1626, one of 57 SBD-1's ordered by the U.S. Marine Corps and delivered between April 1939 and June 1940. This is an aircraft of Marine Bombing Squadron 2. (Photo: Douglas via William T. Larkins)



In April 1939 the Defense Department ordered 87 of these SBD-2's for the U.S. Navy; BuNo 2102, illustrated here, was the first machine in the batch and was delivered in November 1940. The Navy SBD-2 differed from the Marine Corps SBD-1 in the provision of a ·30 cal. machine gun for the second crew member, and armour protection round the cockpit.
(Photo: William T. Larkins)

ceiling of 22,500 ft. It had a semi-retractable landing gear that folded straight back into fairings under the wing.

First test flights in July 1935 indicated a rather severe buffet with the split trailing edge dive flaps opened. This was solved by perforating the flaps, a physical characteristic that marked the entire SBD series.

In December 1935 the XBT-1 was delivered to Anacostia Naval Air Station for acceptance trials. The performance of the aeroplane was good enough to let it pass the tests in only 60 days and warrant an order for 54 production BT-1's.

As the last of the BT-1's rolled off the production line, the XBT-2 (Bu.No. 0627) was under way. Performance was improved by replacement of the P. & W. engine with a Wright XR-1820-32 driving a three-blade propeller. The plane was then sent to Langley Memorial Aeronautical Laboratory for wind tunnel tests. It was felt by the designers that improvement could be made in stalling characteristics, airflow patterns over the wing, and general overall aerodynamics. The Langley tests resulted in recommendations that the fuselage lines be smoothed and that streamlining be improved—particularly around the landing gear. On this basis, the engineers went back to the drawing boards and executed a complete redesign of the aeroplane. No sooner was this accomplished than the Bureau of Aeronautics presented Douglas with a new set of Aerodynamic-Stability requirements. Production of the new plane was stopped and extensive flight tests were commenced. After trying over 20 sets of tail surfaces and a dozen aileron designs, the SBD was born.

In January 1938, John Northrop left the El Segundo facility and Douglas took over the XBT-2 project and nursed it through the flight testing programme and redesign effort. Aeroplane number 0627 was re-designated the XSBD-1. It was this aeroplane that established design standards for all U.S. Navy dive-bombers which lasted for many years. Control surface area ratios, fin configurations, control balance and surface gap, wing shape and wing slots, and tail platforms were all trends that were given nominal dimension by the "Dauntless."

Navy acceptance of the XSBD-1 was achieved in February 1939 and an order was placed with Douglas during April 1939 for 57 SBD-1's for the Marines and 87 SBD-2's for the Navy.

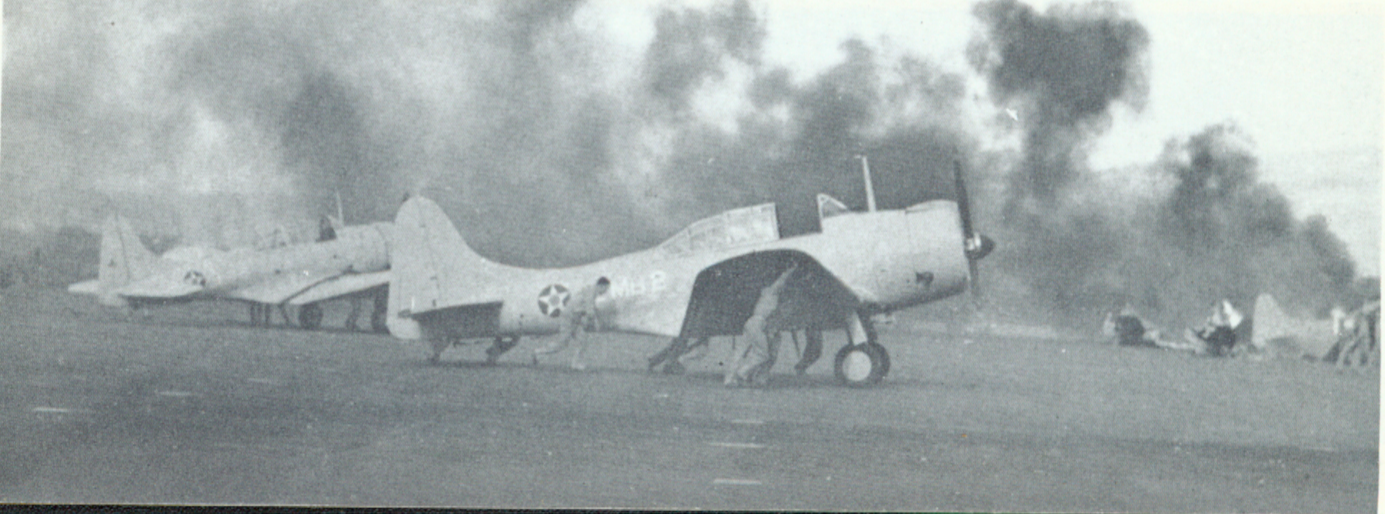
In June 1940, the Marines began receiving their new aeroplanes. The production of SBD-1's spanned BuAer numbers *1596-1631* and *1735-1755*. By October 1941, Marine Air Group Eleven at Quantico, Virginia, had 22 SBD's and Marine Air Group 21 at Ewa, Hawaii, had 21. The new aeroplane was tough enough to satisfy even a Marine, with load factors of +9*g* to —4*g* and a maximum dive speed of 425 m.p.h.

The Navy SBD-2's went into service between November 1940 and May 1941. The planes included BuAer numbers *2102-2188*. The SBD-2 differed from the SBD-1 with the installation of a ·30 calibre machine gun in the rear cockpit and armour plate to protect the crew. Self-sealing rubber-lined metal fuel tanks were installed and additional fuel capacity was provided by installation of two 65-gallon tanks in the outer wing panel. Outboard wing racks carried 100 lb. bombs to augment the 1,600 lb. bomb capacity of the centre rack.

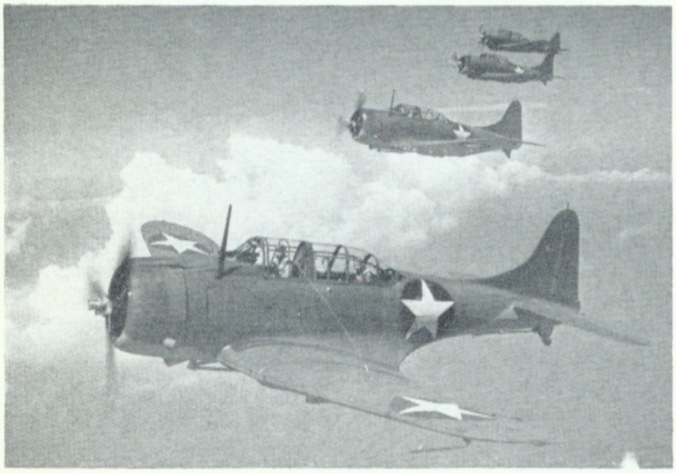
POLICY BATTLES

In spite of ample evidence to the contrary, there were men in high places who were not yet convinced of the value of the dive-bomber. Fortunately, the production of dive-bombers was merely inhibited and not halted. In 1941, the Truman Committee decided that dive-bombers did not warrant procurement in quantity

7th December 1941; ground crew manhandle SBD-1's of the Hawaii-based Marine Air Group 21 out of harm's way, while other aircraft burn fiercely in the background.
(Photo: W. F. Gemeinhardt via the author)



A Marine Corps Dauntless in a camouflaged revetment at MCAS Ewa, Hawaii, early in 1942. (Photo: Clay Jansson via W. T. Larkins)



A formation of early SBD-3's; a second rear gun, improved armour and self-sealing fuel tanks carried the top weight to 6,350 lbs. (Photo: U.S. Navy Official via W. T. Larkins)

and recommended a reduction in funds earmarked for that purpose. In a rare example of foresight, the Navy ignored the recommendation.

An interesting episode was unfolding at about this time in the U.S. Army Air Corps. General Orvil A. Anderson was placed in charge of the build-up of Air Corps strength. General Anderson deleted 16 dive-bomber groups from the budget and substituted fighters on the basis that fighters could dive-bomb but dive-bombers couldn't fight!

General George C. Marshall was Army Chief-of-Staff at that time and had placed those groups in the budget himself. Marshall was somewhat fascinated by the tactical use of the Stuka by the *Luftwaffe* and considered the concept as excellent support for the infantry. In fact, Marshall was so convinced that all other arms of the service should be subservient that he had formulated the incredible policy that no aeroplane should have a range greater than the infantry could march in $2\frac{1}{2}$ days !

Obviously, this was an argument the Army could not win. General Marshall restored the dive-bombers to the budget. Before the groups went into combat, their aeroplanes had been replaced by P-38's.

Happily, the decisions of the Navy and Air Corps leaders matched with the idiosyncracies of the dual war that was soon to be fought. The war in the Pacific was uniquely suited for carrier-borne offensive operations. Great sea battles and amphibious landings were the dive-bombers' speciality; the Navy was ready for this kind of war with the SBD.

General Anderson's decision most appropriately fitted the war in Europe. There, the Army Air Force could mesh with the air arms of its allies to press a strategic war deep into the homeland of the enemy. When ground operations required it, the fighters did justify the prediction that they could dive-bomb.

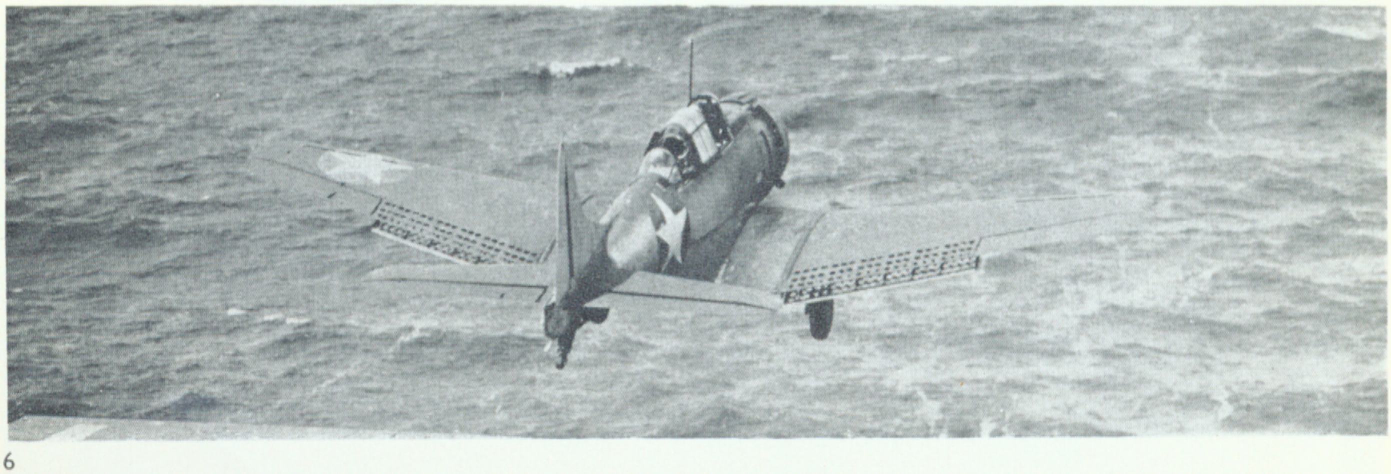
FIRST BLOOD

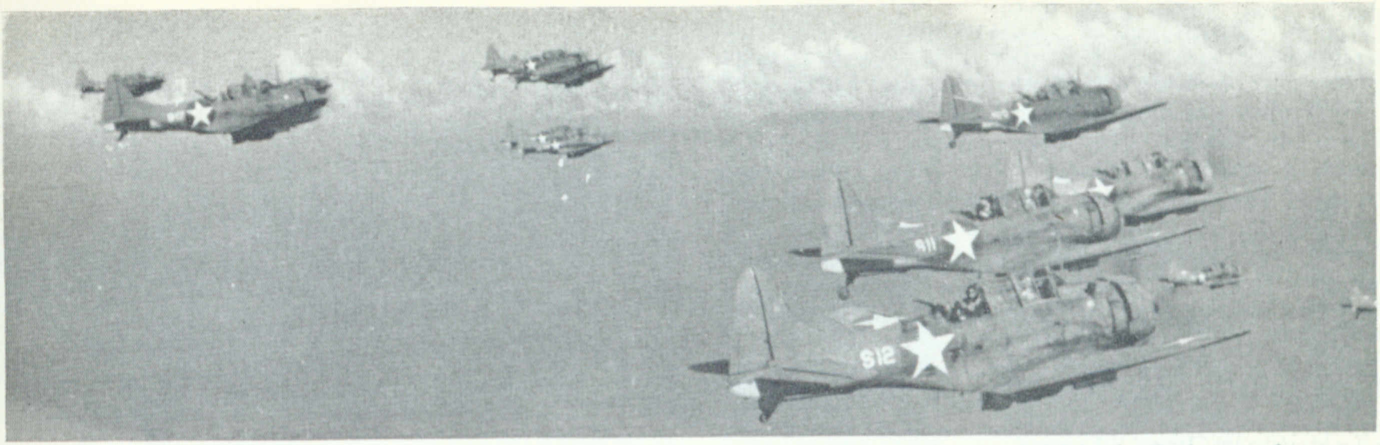
When the attack came against Pearl Harbour, SBD's were in the thick of the fighting. The SBD-1's of Marine Air Group 21 were badly battered on the ground. Nineteen SBD-2's of Scouting Squadron 6 and Bombing Squadron 6 of the carrier *Enterprise* were airborne on routine morning patrol when a Japanese A6M2 shot down the first carrier-launched casualty of the war. During the rest of the day several more SBD-2's from the *Enterprise* were downed. Not a very auspicious beginning, even considering the submarine sunk by the *Enterprise's* Dauntlesses three days later.

The SBD-3 came into being with an order for 174 'planes placed shortly after the fall of France. Aeroplanes BuAer *4518-4691* were delivered against this order. Intelligence from Europe indicated a need for improvements in armament, armour plate, and self-sealing tanks. Another gun was added to the rear cockpit flexible mount. Armour plate was improved, and bladder-type self-sealing tanks were installed. Other improvements included changing the electrical system to 24 volts and installing a Wright R-1820-52 engine. At this time the empty weight of the airplane was up to 6,350 lb. and top speed hovered in the vicinity of 250 m.p.h. The range of the SBD-3 was 1,300 miles, slightly longer than General Marshall's two-and-a-half-day-march !

After Pearl Harbour, another order for 500 SBD-3's was placed. Of these, BuAer numbers *03185-03384* and *06492-06701* were delivered. It was the SBD-2 and SBD-3 that shouldered the burden of the dive-

June 1943—an SBD-4 takes off from a new carrier during its shake-down cruise. (Photo: U.S. Navy Official)





May 1943—a formation of SBD's on their way to the Japanese base at Rekata Bay, Santa Isabel Island. Each aircraft carries a 500 lb. "calling card" under the centre-section. (Photo: U.S. Navy Official)

bombing missions during the Coral Sea and Midway Battles. Dauntless squadrons which figured in the Coral Sea battle were VB-5 and VS-5 aboard the *Yorktown* and VB-2 and VS-2 aboard the *Lexington.* A total of 74 Dauntlesses were available. Losses were relatively light and the *Lexington's* aircraft were recovered aboard the *Yorktown.*

Three carriers took part in the Midway action with Dauntlesses flown by VB-3 and VS-5 from the *Yorktown*, VB-6 and VS-6 from the *Enterprise*, and VB-8 and VS-8 on the *Hornet*. Marine Squadron VMSB-241 also launched their 16 SBD-2's from Midway Island. Out of the 112 Navy and 16 Marine Dauntlesses that entered the fray, the Navy lost 32 and the Marines lost 8; impressive figures compared to the 275 Japanese aeroplanes destroyed during the battle.

THE A-24

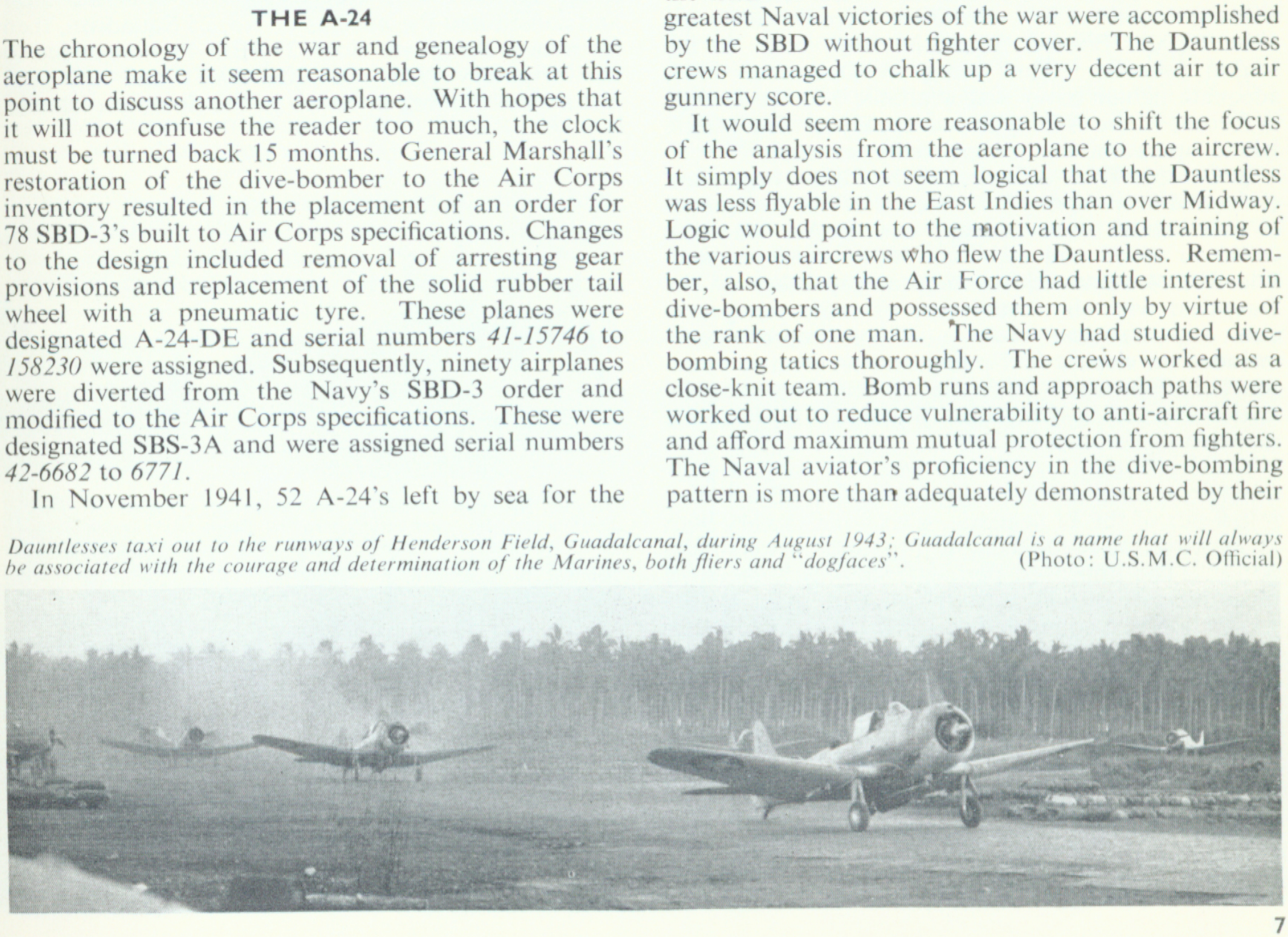
The chronology of the war and genealogy of the aeroplane make it seem reasonable to break at this point to discuss another aeroplane. With hopes that it will not confuse the reader too much, the clock must be turned back 15 months. General Marshall's restoration of the dive-bomber to the Air Corps inventory resulted in the placement of an order for 78 SBD-3's built to Air Corps specifications. Changes to the design included removal of arresting gear provisions and replacement of the solid rubber tail wheel with a pneumatic tyre. These planes were designated A-24-DE and serial numbers *41-15746* to *158230* were assigned. Subsequently, ninety airplanes were diverted from the Navy's SBD-3 order and modified to the Air Corps specifications. These were designated SBS-3A and were assigned serial numbers *42-6682* to *6771.*

In November 1941, 52 A-24's left by sea for the Philippines to be used by the 27th Bombardment Group. Although the shipment was made to bolster the Air Force strength in the face of the deteriorating situation in the Pacific, it was accomplished too late. The Japanese arrived first and the A-24's were re-routed to Brisbane, Australia. From here the 91st Bombardment Squadron took them to the Dutch East Indies where they performed with a spectacular lack of success. The 8th Bombardment Group operating out of Australia had no better luck.

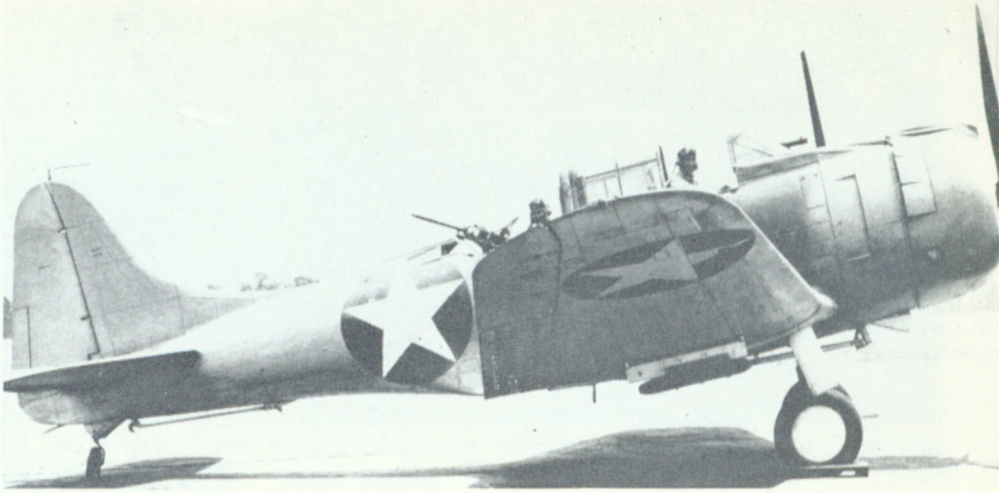
Several accounts of these operations have tried to explain the contrast between the successes of the Navy and the mediocre performance of the Air Force with the same aircraft. This writer is not satisfied with the standard answer that the A-24 was too slow and lacked the maneouvrability to operate without fighter cover. The battle of the Coral Sea gives ample evidence that the SBD could hold its own with the Zero. The greatest Naval victories of the war were accomplished by the SBD without fighter cover. The Dauntless crews managed to chalk up a very decent air to air gunnery score.

It would seem more reasonable to shift the focus of the analysis from the aeroplane to the aircrew. It simply does not seem logical that the Dauntless was less flyable in the East Indies than over Midway. Logic would point to the motivation and training of the various aircrews who flew the Dauntless. Remember, also, that the Air Force had little interest in dive-bombers and possessed them only by virtue of the rank of one man. The Navy had studied dive-bombing tatics thoroughly. The crews worked as a close-knit team. Bomb runs and approach paths were worked out to reduce vulnerability to anti-aircraft fire and afford maximum mutual protection from fighters. The Naval aviator's proficiency in the dive-bombing pattern is more than adequately demonstrated by their

Dauntlesses taxi out to the runways of Henderson Field, Guadalcanal, during August 1943; Guadalcanal is a name that will always be associated with the courage and determination of the Marines, both fliers and "dogfaces". (Photo: U.S.M.C. Official)



Marine Corps SBD-4 BuNo 10780 at an East Coast training station late in 1942.
(Photo: W. F. Gemeinhardt via the author)



ability to fire on enemy aircraft during the dive, pull up, and still hit a target in a vital spot with their bomb. History and legend of this era spotlight the Navy pilot's aggressiveness over the target. This was the aggressiveness born of confidence in his craftsmanship in the science of dive-bombing.

The Air Force attempts at dive-bombing must have lacked this lustre of professional polish. The Air Force simply preferred a different kind of war. The aircrews did not have the "eat-and-sleep dive-bombing" training of the Naval aviator and, no matter how brave their attempts, the Air Force crews were not prepared to press home the attack with the skill and daring required to survive it. The A-24 was more a victim of Air Force policy than of its own performance deficiencies.

In spite of the discouraging experience in the Pacific, the U.S.A.A.F. eventually ordered 170 A-24A-DE's (serial numbers *42-6772* to *6381* and *42-60772* to *60881*) which were counterparts of the SBD-4; and 615 A-24B-DT's (serial numbers *42-54285* to *54899*) which were equivalent to the SBD-5 but built at Douglas' new plant in Tulsa, Oklahoma.

Most of the A-24A's and -B's were relegated to training duties. A few -B models were flown by the 531st Fighter Bomber Squadron from bases in the Makin Islands. This being in December 1943, adequate fighter cover was available and the change in fortune of the A-24 type was apparent. The Makin Island operation was exceptionally successful.

In October 1942, deliveries of the SBD-4 began and continued until April 1943. A total of 780 aeroplanes of this model were ordered and BuAer numbers *06702* to *06983* and *10317* to *10906* were assigned. The SBD-4 advanced the tactical capability of the Dauntless with the installation of radio navigation aids and airborne radar. Other improvements included an electric fuel pump and an electric emergency fuel pump. Performance was improved by installation of a Hamilton Standard Hydromatic constant speed propeller.

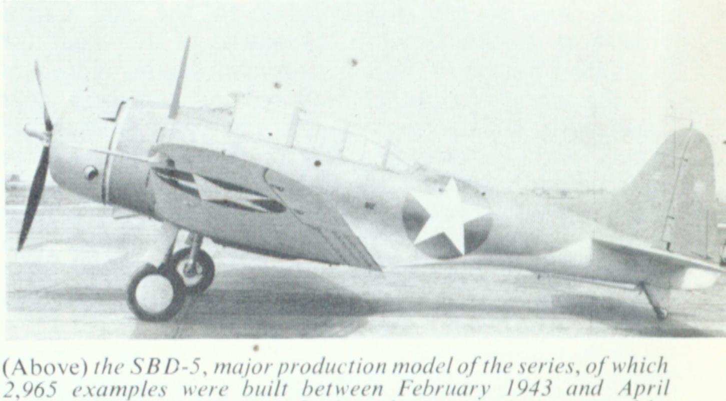
Then, in February 1943, began the largest continuous production run of the SBD series. The SBD-5 rolled out of the El Segundo, California factory with an improved R-1820-60 engine providing 1,200 horsepower. The improved performance was augmented by an increase of fuel capacity to 370 gallons. Before production was completed in April 1944, 2,965 SBD-5's had been built for the U.S. Navy. BuAer numbers included *10808-110766*, *28059-29213*, *35923-34949*, *35951-36421*, *36433-36932*, *54050-54600* and *35922*. Aircraft *28830* was "cut out of the herd" and was modified as the XSBD-6. The SBD-5 continued the carrier war until replaced by newer, bigger dive-bombers such as the Curtiss SB2C and the Brewster SB2A. Then the Dauntless took on the less glamorous but equally important tasks of anti-submarine patrol and ground support. These missions were flown from escort carriers.

FOREIGN USE

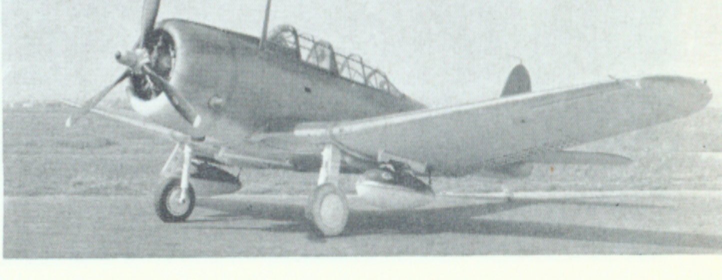
The U.S. Navy was not the only service to realize the value of the Dauntless. In addition to the A-24's used by the Air Force and discussed earlier, several of the Allied nations also received the SBD-5 and A-24B. Unhappily, deliveries were made too late and in too small numbers to permit these planes to establish spectacular war records.

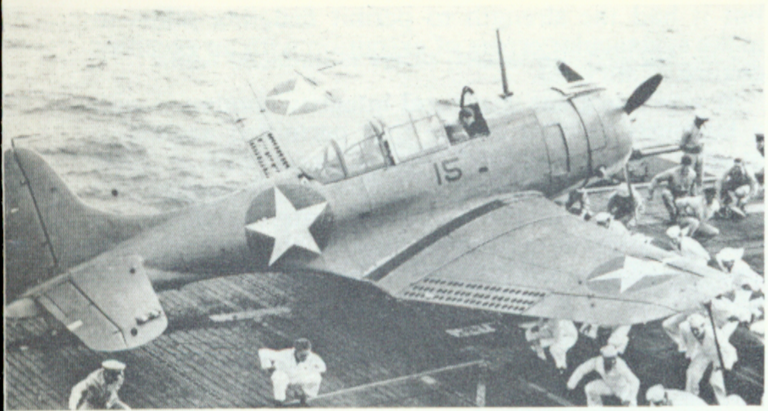
Great Britain obtained nine SBD-5's (*JS997-JS 999* and *JT 923-JT 928*) and named it the Dauntless Mk. I. Neither the Royal Navy nor the R.A.F. decided to adopt the Dauntless and no further numbers were procured.

New Zealand took delivery of 18 SBD-3's from the U.S. Marine Corps in July 1943. These planes' serial numbers were changed to *NZ 5001-NZ 5018* and constituted the nucleus of No. 25 Squadron, then forming at Seagrove. Soon 27 SBD-4's were added to the inventory (*NZ 5019-NZ 5045*) and the unit underwent training at Santo in the Solomon Islands.



(Above) *the SBD-5, major production model of the series, of which 2,965 examples were built between February 1943 and April 1944.* (Below) *the SBD-6, final production version, powered by a 1,350 h.p. R-1820-66 engine.* (Photos: William T. Larkins)





Deck crew cluster round an SBD-6; and (below) *a close-up of an SBD of VMSB 231; note squadron insignia on nose.*
(Photos: Paul Matt, & U.S. Navy Official)

Finally No. 25 Squadron was re-equipped with 23 SBD-5's, serial numbers *NZ 5046-NZ 5068*. The unit was then shipped to Bougainville in March 1944 and served with distinction until May 1944 when it was disbanded.

France received approximately 40 or 50 A-24B's and 32 SBD-5's. The A-24B's were used by the French Air Force and served first in what could only be described as menial chores. By early 1944, only a handful had been received by fighter units and the Dauntless was used mainly by the fighter school at Meknes as aerobatic trainers. A few more were assigned to training bases in Algeria and Morocco.

The A-24's finally went into combat on desert patrol with G.B. 1/17 "*Picardie*" flying a dozen Dauntlesses out of Rayack, Syria. In April 1944, an idea was born for a special mission to support the French *Maquis* in the Alps. Although the *Maquis* was forced into units too small for effective aerial support, the concept was not abandoned and G.C.B. 1/18 "*Vendee*" was formed with two *escadrilles* manned by aircrews from Syria and Morocco.

In September 1944 the *Groupe* arrived in Toulouse, France, and began attack missions against the retreating German columns and the enemy fortresses on the Atlantic coast. Until V-E Day, the A-24's fought in spite of dwindling numbers brought about by operational losses. After V-E Day the A-24's returned to Meknes and served as trainers until they were finally grounded in 1953.

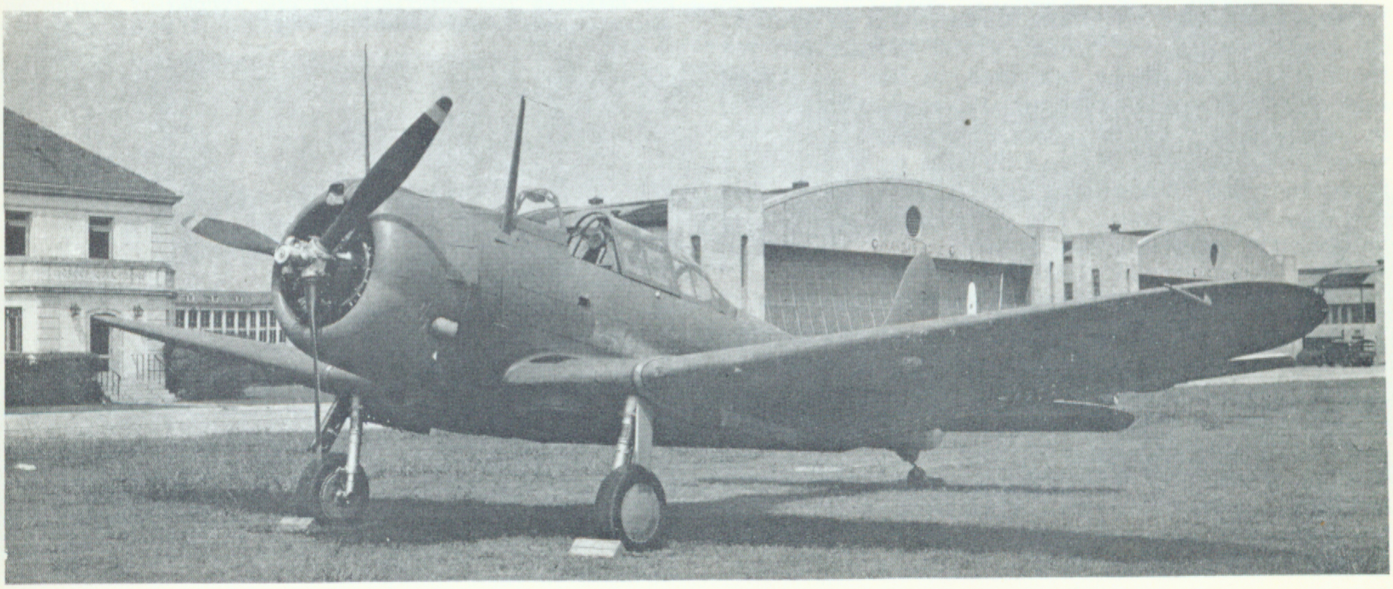
In 1943 the French Naval Air Service requested aeroplanes from Allied leaders. The response was an allotment of PBY's and SBD-5's. In November 1944, *Flotilles* 3B and 4B received their Dauntlesses in Agadir, Morocco. After a brief training period, the 32 Dauntlesses were flown to Cognac, France, and gave support to French ground units. The two *flotilles* were organized under TAF (P) as G.A.N.2. Five SBD's were lost in action between December 1944 and V-E day.

France tried to put the Dauntlesses into combat in the Pacific but the war was over before a carrier could be provided. As the Indo-China situation began to deteriorate, *Flotille* 4F (originally 4B) was sent to the Far East and operated from land bases until *Flotille* 3F arrived on the escort carrier *Arromanches*. Eventually, it became evident that the SBD's were getting too weary to be safe. Finally, in 1949, they were retired, the last Dauntlesses to fly combat missions.

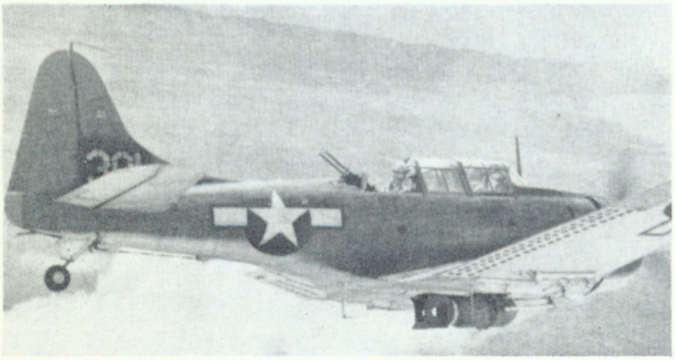
Mexico received several A-24B's which they used on submarine patrol missions in the Caribbean Sea. After the war, they served on the border patrol until replaced by T-28's in 1959.

The final version of the SBD was known as the

The Army Air Corps' A-24 "Banshee"; although used with some success by French units in Europe, the A-24 had an unhappy record in U.S. Army service.
(Photo: U.S.A.F. via Charles D. Thompson)



Two flying studies of Marine SBD's: (above) *Capt. Ernesto Guisti of VMSB-331 photographed over Majuro Atoll, Marshall Islands, in June 1944; and* (below) *Maj. Benjamin Manchester, a flight commander with the First Marine Air Wing "Diving Devildogs", initiates his dive on a Japanese land target; February, 1945.* (Photos: U.S.M.C. via W. F. Gemeinhardt)



SBD-6 and a total of 450 (BuAer *35950* and *54601-55049*) were built at El Segundo between February and July 1944. The new Dauntless was powered by a 1,350 h.p. R-1820-66 engine with automatic mixture control. Both the SBD-5 and -6 could be distinguished by the new engine cowling which deleted the large airscoop at the top. Inside, the fuel cells were again replaced by improved bladder type self-sealing tanks.

Finally, on 22nd July, 1944, aircraft BuAer number *55049* rolled out of the hanger door and the last of 5,936 Dauntlesses joined its fellows. The SBD-6 was used exclusively by the Navy and Marines. After the close of the war, the remaining Dauntlesses were removed from first line service and only a few remained in reserve training squadrons.

It is strange that the Navy, who had made such a brilliant use of the aeroplane, discarded it so quickly. By contrast, the Air Force, whose enthusiasm for the Dauntless could be described, at best, as polite, kept the A-24 in service until 1950. In June 1948, in line with the new aircraft designators, the A-24's were retyped as F-24. One F-24 was modified to be flown by radio control and was designated QF-24A-DE (Ser. No. 48-044). The controller aircraft was DF-24B-DT serial number 48-045.

THE DAUNTLESS DESCRIBED

According to the pilots who flew it, the Dauntless was a well-liked aeroplane. Its manoeuvrability permitted it to be flown like a fighter. It was this nimbleness that permitted the SBD to score a very respectable number of victories against attacking fighters. Remember that, although the aeroplane was technically a bomber, the French used it for about five years as an aerobatic trainer. It did have aerobatic limitations, a relatively slow roll rate in particular, but it had the strength to permit fledgling pilots to make spectacular errors of execution with an excellent chance of survival.

It was this great structural integrity combined with a famously reliable engine that permitted aggressive attacks on a heavily defended target with a good chance of getting back to the carrier. One SBD staggered back to the flight deck after action in the Coral Sea Battle with 214 holes in the airframe. A combat pilot can easily fall in love with an aeroplane like that.

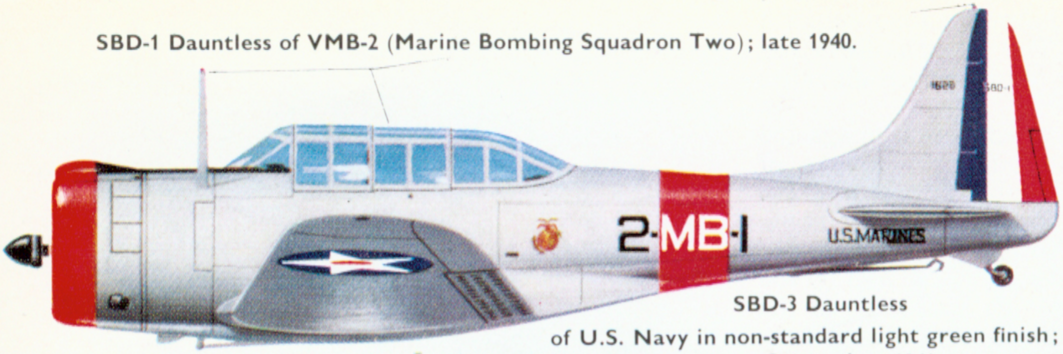
Possibly the Dauntless's greatest deficiency during its life was in gun-power. In 1941, it could be considered as a well-armed aeroplane. By 1943-1944, the two forward-firing guns were simply not adequate. Two good guns are all that are required for good air-to-air gunnery but ground support is best performed behind a hail of lead.

The Dauntless's fuselage was an all metal, aluminium alloy, semi-monocoque, stressed skin structure built in four sub-assemblies. The cockpit was enclosed with a continuous transparent canopy with one stationary and three sliding sections. The windshield had a laminated bullet proof glass, and steel armour plate was installed in strategic locations to protect the crew. The radio operator/gunner was equipped with a duplicate set of controls and was armed with a pair of ·30 cal. machine guns on a ring mount. The yoke bomb displacement gear was located beneath the centre of the fuselage and afforded 12 inches of propeller clearance for the bomb.

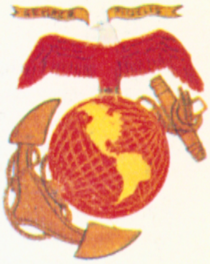
The wing was of all metal, multi-cellular stressed skin construction. Lift was generated by an NACA 2415-2409 airfoil augmented by hydraulically operated trailing edge flaps. Additional drag was available to control diving speed by the perforated split dive flap function of the trailing edge flap. In a dive, the lower flap was depressed 42° and the upper flap raised 37½°. The hydraulically operated landing gear retracted inwards flush into the bottom wing surface. The strut was faired but the wheel was exposed. The full-swivel tail wheel was fixed. The ailerons were of all metal ribbed construction and fabric covered. A metal trim tab was installed in the left aileron.

The tail assembly featured an all metal cantilever structure. The stabilizers were metal covered and the movable surfaces were fabric. Trim was accomplished

A Marine SBD-4 formation on a sortie in the Central Solomons; the target in this case was the Vila Plantation airstrip on Kolombangara Island. (Photo: U.S.M.C. Official)


1620
SBD-1
2-MB-1
U.S.MARINES

SBD-1 Dauntless of VMB-2 (Marine Bombing Squadron Two); late 1940.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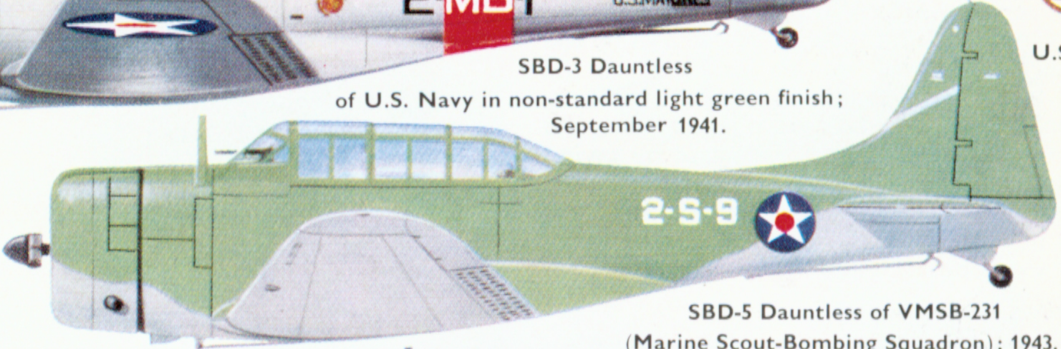
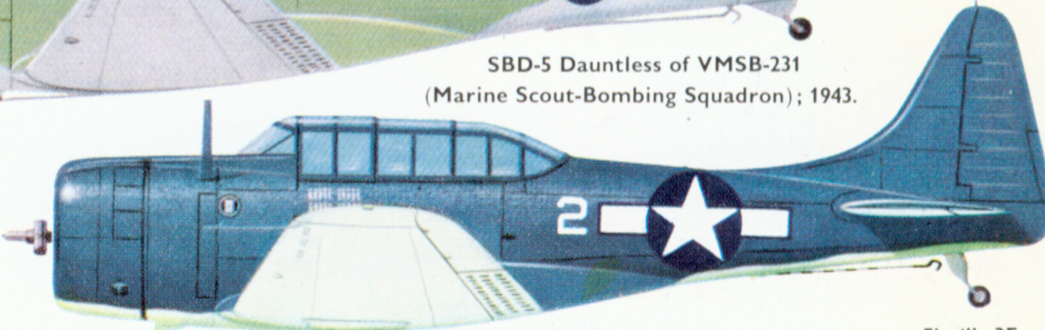
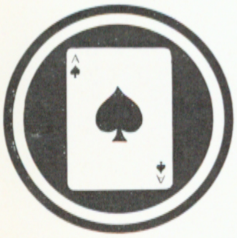
U.S. Marine Corps.



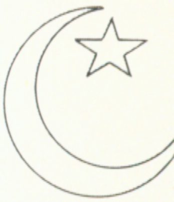
SBD-3 Dauntless
of U.S. Navy in non-standard light green finish;
September 1941.



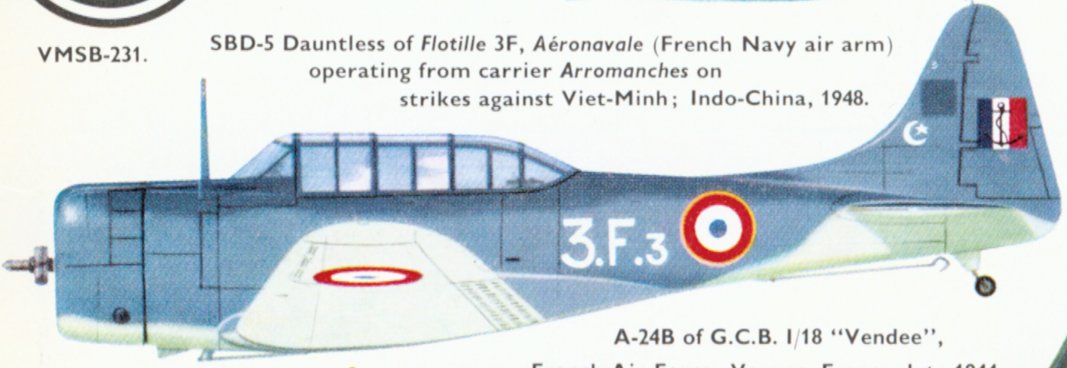
SBD-5 Dauntless of VMSB-231
(Marine Scout-Bombing Squadron); 1943.



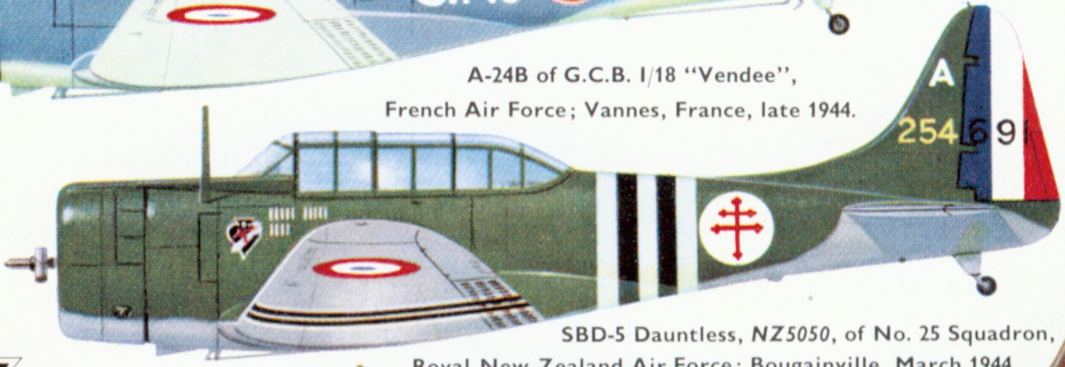
VMSB-231.



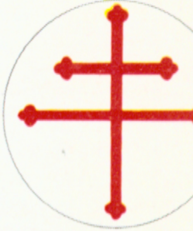
Flotille 3F



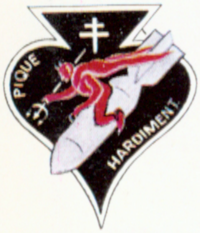
SBD-5 Dauntless of *Flotille* 3F, *Aéronavale* (French Navy air arm)
operating from carrier *Arromanches* on
strikes against Viet-Minh; Indo-China, 1948.



A-24B of G.C.B. I/18 "Vendee",
French Air Force; Vannes, France, late 1944.



Cross of Lorrain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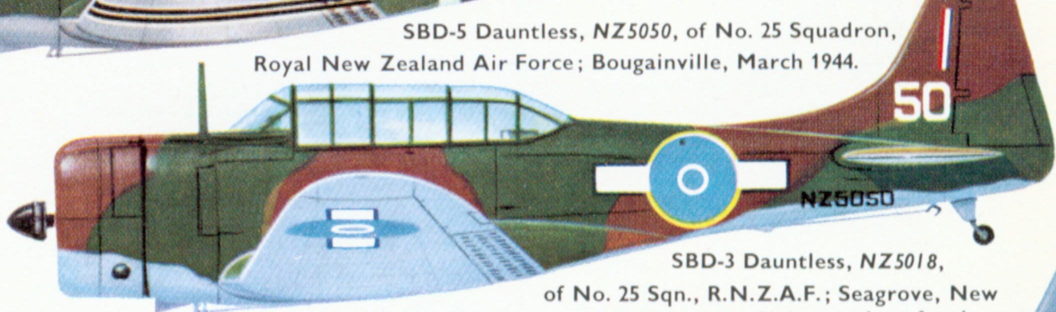
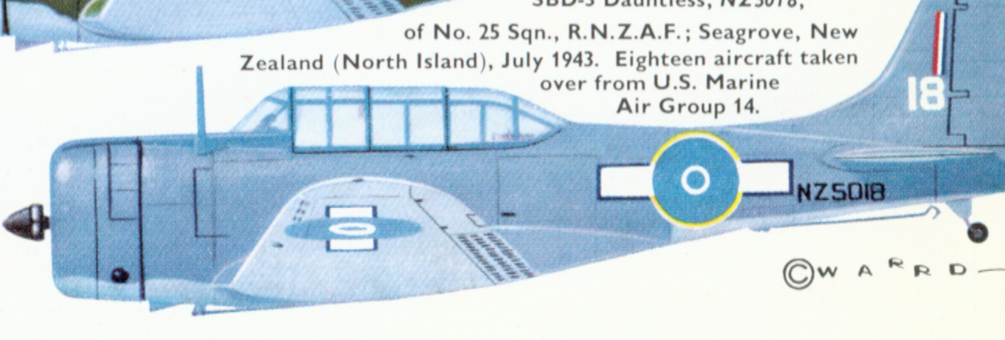
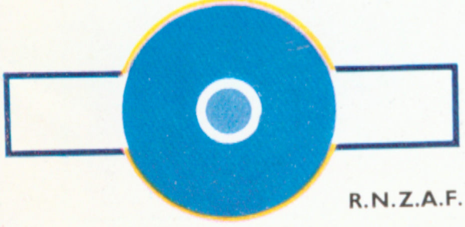
G.C.B. I/18 "Vendee".



SBD-5 Dauntless, *NZ5050*, of No. 25 Squadron,
Royal New Zealand Air Force; Bougainville, March 1944.


18
NZ5018
©WARD

SBD-3 Dauntless, *NZ5018*,
of No. 25 Sqn., R.N.Z.A.F.; Seagrove, New
Zealand (North Island), July 1943. Eighteen aircraft taken
over from U.S. Marine
Air Group 14.



R.N.Z.A.F.

with tabs in the trailing edge of all movable surfaces.

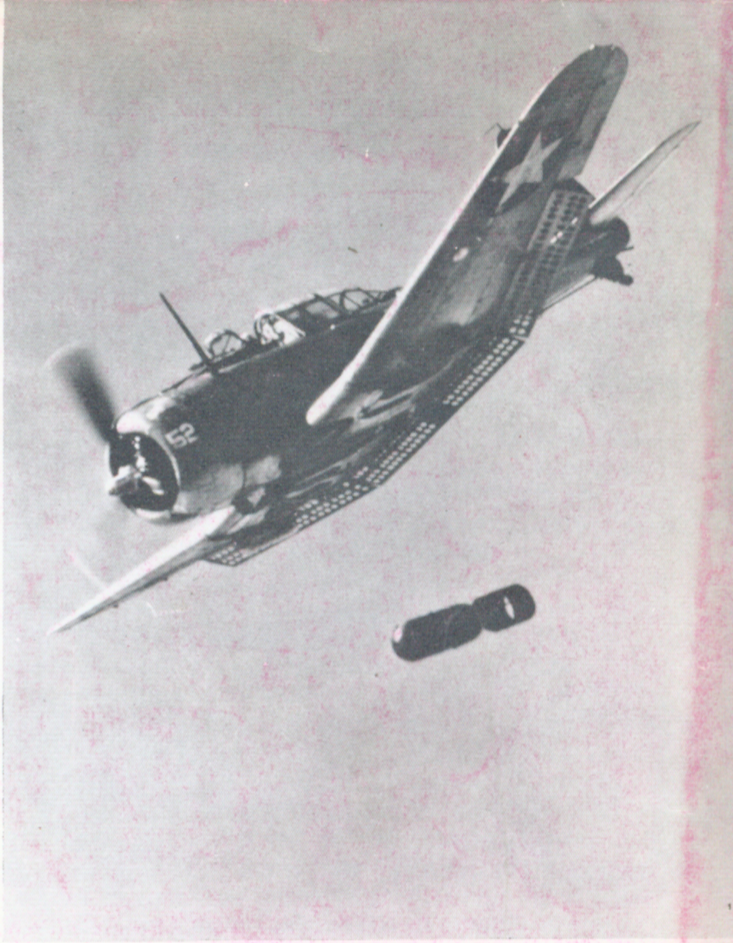
This was the aeroplane that prompted Rear Admiral John McCain to state that "The Douglas SBD has sunk more enemy combatant tonnage than all other arms of the service combined."

This was the aircraft of which Time magazine wrote in 1944, "She had no bugs, no streaks of temperament, she was a thoroughly honest aircraft. She could take a frightful beating and stagger home on wings that sometimes looked like nutmeg graters."

This aeroplane grew old during the war and by the war's end was mainly used up. So common was the aeroplane in the lives of aviation people at the time and so completely exhausted was she that no one thought to preserve its memory and legend by saving some for display.

Like many Americans whose way of life was momentarily in the hands of the Douglas Dauntless, I have never seen one.

© *David Brazelton, 1967.*



A classic view of the SBD Dauntless, which shows the characteristic pierced flaps to advantage.
(Photo: U.S.M.C. via the author)

SPECIFICATION

	XBT-2	*SBD-1*	*SBD-2*	*SBD-3*	*A-24*
Span	41 ft. 6 in.	41 ft. 6 in.	41 ft. 6 in.	41 ft. 6 in.	41 ft. 6 in.
Length	31 ft. 9 in.	32 ft. 2 in.	32 ft. 2 in.	32 ft. 8 in.	32 ft. 8 in.
Height	12 ft. 10 in.	13 ft. 7 in.	13 ft. 7 in.	13 ft. 7 in.	13 ft. 7 in.
Wing Area	320 sq. ft.	325 sq. ft.	325 sq. ft.	325 sq. ft.	325 sq. ft.
Empty weight	5,093 lb.	5,903 lb.	6,293 lb.	6,345 lb.	6,265 lb.
Maximum weight	7,593 lb.	9,790 lb.	10,360 lb.	10,400 lb.	10,200 lb.
Engine	XR-1820-32	R-1820-32	R-1820-32	R-1820-52	R-1820-52
Take-off power	1,000 h.p.	1,000 h.p.	1,000 h.p.	1,000 h.p.	1,000 h.p.
Maximum speed	265 m.p.h.	253 m.p.h.	252 m.p.h.	250 m.p.h.	250 m.p.h.
Cruising speed	155 m.p.h.	142 m.p.h.	148 m.p.h.	152 m.p.h.	173 m.p.h.
Climbing speed	1,450′/fpm.	1,730′/fpm.	1,080′/fpm.	1,190′/fpm.	10,000′/7 min.
Service Ceiling	30,600 ft.	29,600 ft.	26,000 ft.	27,100 ft.	26,000 ft.
Range (bombing)	604 miles	860 miles	1,225 miles	1,345 miles	950 miles
Range (scouting)	1,485 miles	1,165 miles	1,370 miles	1,580 miles	1,300 miles
Fixed guns	2 × ·30	2 × ·30	2 × ·30	2 × ·50	2 × ·50
Flexible guns	1 × ·30	1 × ·30	1 × ·30	2 × ·30	2 × ·30
Bomb load (max.)	1,200 lb.	1,200 lb.	1,200 lb.	1,200 lb.	1,200 lb.
No. of aircraft built	1	57	87	584	78 +90 SBD-3A

	SBD-4	*A-24A*	*SBD-5*	*A-24B*	*SBD-6*
Span	41 ft. 6 in.	41 ft. 6 in.	41 ft. 6 in.	41 ft. 6 in.	41 ft. 6 in.
Length	32 ft. 8 in.	32 ft. 8 in.	33 ft. 0 in.	33 ft. 0 in.	33 ft. 0 in.
Height	13 ft. 7 in.	13 ft. 7 in.	13 ft. 7 in.	13 ft. 7 in.	13 ft. 7 in.
Wing Area	325 sq. ft.	325 sq. ft.	325 sq. ft.	325 sq. ft.	325 sq. ft.
Empty weight	6,360 lb.	6,285 lb.	6,533 lb.	6,330 lb.	6,554 lb.
Maximum weight	10,480 lb.	10,280 lb.	10,700 lb.	10,450 lb.	10,882 lb.
Engine	R-1820-52	R-1820-52	R-1820-60	R-1820-60	R-1820-66
Take-off power	1,000 h.p.	1,000 h.p.	1,200 h.p.	1,200 h.p.	1,350 h.p.
Maximum speed	245 m.p.h.	248 m.p.h.	252 m.p.h.	254 m.p.h.	262 m.p.h.
Cruising speed	150 m.p.h.	165 m.p.h.	139 m.p.h.	180 m.p.h.	143 m.p.h.
Climbing speed	1,150′/fpm.	10,000′/7·6 min.	1,700′/fpm.	10,000′/6·1 min.	1,710′/fpm.
Service Ceiling	26,700 ft.	26,000 ft.	24,300 ft.	27,000 ft.	28,600 ft.
Range (bombing)	1,300 miles	975 miles	1,115 miles	950 miles	1,230 miles
Range (scouting)	1,450 miles	1,300 miles	1,565 miles	1,250 miles	1,700 miles
Fixed guns	2 × ·50	2 × ·50	2 × ·50	2 × ·50	2 × ·50
Flexible guns	2 × ·30	2 × ·30	2 × ·30	2 × ·30	2 × ·30
Bomb load (max.)	1,200 lb.	1,200 lb.	1,200 lb.	1,200 lb.	1,200 lb.
No. of aircraft built	780	170	2,965 +60 SBD-5A	615	450

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